



## **CITY OF DURHAM | NORTH CAROLINA**

**Date:** December 4, 2012  
**To:** Thomas J. Bonfield, City Manager  
**Through:** Keith Chadwell, Deputy City Manager  
**From:** Donald F. Greeley, Director, Water Management  
Jerry F. Morrone, Utility Engineering Supervisor  
**Subject:** Water System Improvements Project - Engineering Design Services -  
Contract Amendment #4

### **Executive Summary**

In September 2007, the City council awarded an engineering design services contract for the Water System Improvements to Kimley-Horn and Associates, Inc. (KHA) for design and construction services for three projects: Erwin Water/Fulton Sewer Replacement, Southern Reinforcing Main Phase I, and Hillandale Dual Waterline (HDWL) Replacement. The first two projects and Phase I of the HDWL project are complete. The construction of Phase II of the HDWL Replacement Project is over 90% complete. The contract includes the construction administration and construction inspection of all projects. Because of construction delays the project has passed the Date of Substantial Completion. The City is currently negotiating liquidated damages with the construction contractor for delays beyond Substantial Completion, and the anticipated costs recovered from the contractor should cover most of the cost of this amendment. This amendment is needed for the additional costs for KHA to provide oversight and inspection until the end of the project.

### **Recommendation**

The Department of Water Management recommends that the City Council authorize the City Manager to execute Contract Amendment #4 with Kimley-Horn and Associates, Inc. of Cary, NC, for Water System Improvements Engineering Design Services Project, in the amount of \$82,000.00.

### **Background**

The HDWL Project consists of the construction of a 36-inch waterline along West Main St. from Rutherford Street to Peabody Street. The project consists of approximately 5,500 feet of 36-inch water main along W. Main St. and 1,500 feet of numerous, smaller connections to the distribution grid. The larger connections are on Ninth Street, Iredell Street and Hillsborough Road. In addition to replacing three older and smaller transmission mains, the project was needed to allow the NCDOT bridge replacement project at the Main Street/Campus Drive Bridge to go forward.

A summary of the previous amendments is as follows:

- Amendment #1 - extending the Hillandale Dual Waterline Replacement Phase I limits to the NCDOT bridge on Main St. at Campus Drive; to provide design and construction-related services for a Cary Interconnection project (NC Hwy 54/Surles Ct.); and miscellaneous services at the North and South Durham Water Reclamation Facilities
- Amendment #2 - add time to the project (516 calendar days).
- Amendment #3 - to provide design and construction-related services for Phase II of the Hillandale Dual Waterline Replacement Project that included bypassing the NCDOT bridge through Duke University and replacing 100-year-old mains with a new 36-inch water main.

Construction delays have been incurred by the contractor that are beyond the contractor's control in making several of the connections. These are due in large part because of the lack of accurate record drawings for the decades-old buried piping and associated difficulties in isolating sections of piping to make connections, and to a lesser degree, inoperability of decades-old valves. In addition, the Department has requested changes in work sequence, Traffic Control Plan (TCP) modifications, and pavement evaluation, resulting in extra time and engineering services for the project. Owner-requested changes included working at night and modifying traffic control barricades to lessen disruption to Whole Foods Market; erecting a chain link fence along W. Main St. at Duke University; modifying TCPs to lessen impact to intersections and the Bull City Connector bus; evaluating pavement failures near the W. Main St. bridge (failing storm drain pipe, being replaced by NCDOT); and re-installing a mulch trail for a walking path across Duke University.

In addition, the contractor has gone beyond the final completion date with the work. The City is currently negotiating liquidated damages against the construction contractor for not completing the work on time.

### **Issues and Analysis**

The Substantial Completion date for Phase II was November 12, 2012. The work performed by KHA on Phase II should be complete by January 2013, which is approximately three (3) months beyond the originally-planned completion date. City staff agree that roughly two (2) of these months are justifiably attributed to the unknown and difficult conditions mentioned above; however one (1) month is attributed to contractor issues that are being assessed in liquidated damages.

An approximate breakdown of the \$82,000 is shown below. The amendment will enable KHA to complete Construction Services portion of their contract through construction completion.

Traffic Control Plan Modifications	\$8,000
Delays – Unknown/Unforeseen Conditions	\$45,000
Additional Time – Owner Requested Work	\$29,000
Total	\$82,000

The current contract value is \$2,794,153.45. The proposed amendment, for \$82,000, would be a 2.9% extension.

#### **Alternatives**

No alternatives have been identified at this time since the project is near its' final completion.

#### **Financial Impact**

There are currently funds available for this project in the Water Distribution System Rehabilitation Account, 4100P007-731004-P0700. The Department estimates the City will recover between \$75,000-\$100,000 from the construction contractor due to delays.

#### **SDBE Summary**

This is a contract amendment. Kimley Horn and Associates, Inc. will be using the following SDBE firm for the additional scope of services:

<b>Firm</b>	<b>ID</b>	<b>City/State</b>	<b>Amount</b>	<b>% of Contract</b>
Monarch Services	MSDBE	Durham, NC	\$ 11,932.40	14.5%